

REMARKS

Summary

Claims 1-22 stand in this application. No new matter has been added. Favorable reconsideration and allowance of the standing claims are respectfully requested.

35 U.S.C. § 101

At page 3, paragraph 1 of the Office Action claims 1-19 have been rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of the non-statutory subject matter rejection.

The statutory limit on patentable inventions is defined by 35 U.S.C. § 101 which recites "any process, machine, manufacture or composition of matter" as patentable subject matter. Unpatentable subject matters identified by the Supreme Court include "laws of nature, natural phenomena and abstract ideas." *Diamond v. Diehr*, 450 U.S. 175, 185 (1981). For claims including such excluded subject matter to be eligible for patent protection, the claim must be for a practical application of the abstract idea, law of nature, or natural phenomenon. *Diehr*, 450 U.S. at 187. A claimed invention is directed to a practical application of a 35 U.S.C. § 101 judicial exception when it: (A) "transforms" an article or physical object to a different state or thing; or (B) otherwise produces a useful, concrete and tangible result. MPEP § 2106 IV(C)(2).

Claims 1-19 represent statutory subject matter under 35 U.S.C. § 101. According to the Office Action, claims 1-19 represent an abstract idea without practical application

or use. More particularly, the Office Action states that the method steps recited in claims 1, 14 and 18 have no practical application because no physical transformations take place and no useful, concrete and tangible result is produced. Applicant respectfully disagrees.

To properly determine whether a claimed invention complies with the statutory invention requirements of 35 U.S.C. § 101, USPTO personnel must first identify whether the claim falls within at least one of the four enumerated categories of patentable subject matter recited in § 101 (i.e., process, machine, manufacture, or composition of matter).

MPEP 2106 § IV(B). In the instant case, claims 1-19 represent method claims.

Consequently, claims 1-19 fall within at least one of the four enumerated categories of patentable subject matter recited in § 101, and moreover, it is fairly clear within which of the enumerated categories these claims fall. Determining whether the claim falls within one of the four enumerated categories of patentable subject matter recited in 35 U.S.C. § 101, however, does not end the analysis because claims directed to nothing more than abstract ideas, natural phenomena, and laws of nature are not eligible for patent protection. *Diehr*, 450 U.S. at 185, 209 USPQ at 7; accord, e.g., *Chakrabarty*, 447 U.S. at 309, 206 USPQ at 197; *Parker v. Flook*, 437 U.S. 584, 589, 198 USPQ 193, 197 (1978); *Benson*, 409 U.S. at 67-68, 175 USPQ at 675; *Funk*, 333 U.S. at 130, 76 USPQ at 281.

Applicant respectfully submits that claims 1-19 do not cover any of the 35 U.S.C. § 101 judicial exceptions. The Supreme Court has identified three categories of subject matter that are unpatentable, namely "laws of nature, natural phenomena, and abstract ideas." *Diamond v. Diehr*, 450 U.S. 175, 185 (1981). According to the Office Action, the language of claims 1, 14 and 18 represents abstract ideas. Claims 1-19, however,

each recite language that is clearly more than an abstract idea. For example, claim 1 recites “encapsulating a variable length frame into at least one fixed length codeword.” This language goes beyond a mere abstract idea. Consequently, Applicant respectfully submits that claims 1-19 are not limited to abstract ideas. Accordingly, claims 1-19 do not cover any of the 35 U.S.C. § 101 judicial exceptions.

The above notwithstanding, Applicant respectfully submits that claims 1-19 are at least directed to a practical application of a 35 U.S.C. § 101 judicial exception. A claimed invention is directed to a practical application of a 35 U.S.C. § 101 judicial exception when it produces a useful, concrete and tangible result. MPEP § 2106(II)(A). Claims 1-19 are directed to computer software or hardware that provides a practical application because the claimed subject matter produces a useful, concrete and tangible result.

One example of a practical application was articulated in *State Street Bank & Trust Co. v. Signature Financial Group*, 149 F.3d 1368 (Fed. Cir. Jul. 23, 1998), citing *In re Alappat*, 33 F.3d 1526, 1540-41, 31 USPQ2d 1545, 1554 (Fed. Cir. 1994) (in banc), where the Court stated “[i]n *Alappat*, the Federal Circuit held that data, transformed by a machine through a series of mathematical calculations to produce a smooth waveform display on a rasterizer monitor, constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it produced ‘a useful, concrete and tangible result’ -- the smooth waveform.” In the present case, claim 1 recites the language “encapsulating a variable length frame into at least one fixed length codeword.” The useful, concrete and tangible result of “encapsulating a variable length frame” recited in claims 1-19 are similar to the “smooth waveform” considered statutory by the Federal

Circuit in Alappat. Even if the claimed useful result is expressed in fixed length codewords, those codewords have practical utility.

Similarly, in *Arrhythmia Research Technology Inc. v. Corazonix Corp.*, 958 F.2d 1053, 22 USPQ2d 1033 (Fed. Cir. 1992), the Federal Circuit held that “the transformation of electrocardiograph signals from a patient's heartbeat by a machine through a series of mathematical calculations constituted a practical application of an abstract idea (a mathematical algorithm, formula, or calculation), because it corresponded to a useful, concrete or tangible thing -- the condition of a patient's heart.” In the instant case, claim 1 recites “encapsulating a variable length frame into at least one fixed length codeword” which constitutes a practical application because it corresponds to encapsulating frames of data for transmission over various forms of media.

In another example, the Federal Circuit held in *State Street Bank* that the “transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price, constitutes a practical application of a mathematical algorithm, formula, or calculation, because it produces ‘a useful, concrete and tangible result’ -- a final share price momentarily fixed for recording and reporting purposes and even accepted and relied upon by regulatory authorities and in subsequent trades.” Similarly, “encapsulating a variable length frame into at least one fixed length codeword” as recited in claims 1, 14 and 18 constitutes a practical application because it takes a “variable length frame” and produces “a useful, concrete and tangible result” of a “codeword.” Thus, the claims are directed to statutory subject matter.

Applicant, therefore, respectfully requests the removal of the non-statutory subject matter rejection with respect to claims 1-19.

35 U.S.C. § 103

At page 4, paragraph 3 claims 1-8, 10, 12 and 14-16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Constant Six et al., U.S. Patent Publication 2003/0219015 (hereinafter “Constant Six”) in view of Chari et al., U.S. Patent Number 6,449,288 (hereinafter “Chari”). Applicant respectfully traverses the rejection, and requests reconsideration and withdrawal of the obviousness rejection.

The Office Action has failed to meet its burden of establishing a *prima facie* case of obviousness. According to MPEP § 2143, three basic criteria must be met to establish a *prima facie* case of obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 706.02(j).

As recited above, to form a *prima facie* case of obviousness under 35 U.S.C § 103(a) the cited references, when combined, must teach or suggest every element of the claim. See MPEP § 2143.03, for example. Applicant respectfully submits that the Office Action has not established a *prima facie* case of obviousness because the cited references,

taken alone or in combination, fail to teach or suggest every element recited in claims 1-8, 10, 12 and 14-16. Therefore claims 1-8, 10, 12 and 14-16 define over Constant Six and Chari whether taken alone or in combination. For example, claim 1 recites the following language, in relevant part:

encapsulating a variable length frame into at least one fixed length codeword comprising an integer number of bytes, wherein a first byte of the codeword is a synchronization byte.

According to the Office Action, the above language is disclosed by Constant Six at paragraphs 0001, 0008, 0010 and 0034. Applicant respectfully disagrees.

The Constant Six reference fails to disclose all the language recited in claim 1. For example, Constant Six at paragraph 0008, in relevant part, states, “According to the present invention, these objects are realised by the method for encapsulating variable length data packets defined in claim 1.” Claim 1, in relevant part, states:

Method for encapsulating variable length data packets, CHARACTERIZED IN THAT a five octet long packet header (PACKET-HDR) is added to each data packet, a fifth octet of said packet header constituting a header error check field (HEC).

Applicant respectfully submits that Constant Six, arguably, teaches the addition of a five octet header to each variable length data packet. Applicant respectfully submits, however, that Constant Six fails to teach, suggest or disclose a “fixed length codeword ... wherein the first byte of the codeword is a synchronization byte.” The data packets disclosed in Constant Six, arguably, are not of a fixed length and are not codewords. Furthermore, a synchronization byte is arguably not the first byte in the header.

Consequently, Constant Six and Chari, whether taken alone or in combination, fail to disclose, teach or suggest every element recited in claim 1.

Furthermore, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. *See* MPEP § 2143.03, for example. Accordingly, removal of the obviousness rejection with respect to claims 2-8, 10 and 12 is respectfully requested. Claims 2-8, 10 and 12 also are non-obvious and patentable over the Constant Six and Chari, taken alone or in combination, at least on the basis of their dependency from claim 1. Applicant, therefore, respectfully requests the removal of the obviousness rejection with respect to these dependent claims.

Claim 14 recites features similar to those recited in claim 1. Therefore, Applicant respectfully submits that claim 14 is non-obvious and patentable over Constant Six and Chari for reasons analogous to those presented with respect to claim 1. Accordingly, Applicant respectfully requests removal of the anticipation rejection with respect to claim 14. Furthermore, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. *See* MPEP § 2143.03, for example. Accordingly, removal of the obviousness rejection with respect to claims 15 and 16 is respectfully requested. Claims 15 and 16 also are non-obvious and patentable over Constant Six and Chari, taken alone or in combination, at least on the basis of their dependency from claim 14. Applicant, therefore, respectfully requests the removal of the obviousness rejection with respect to these dependent claims.

At page 5, paragraph 4 claims 18-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Allison et al., U.S. Patent Number 6,373,848 (hereinafter “Allison”) in view of Constant Six and further in view of Chari. Applicant respectfully

traverses the rejection, and requests reconsideration and withdrawal of the obviousness rejection.

As correctly noted in the Office Action, Allison fails to disclose “encapsulating a variable length frame into at least one fixed length codeword comprising an integer number of bytes, wherein a first byte of the codeword is a synchronization byte.” According to the Office Action, the missing language is disclosed by Constant Six at paragraphs 0001, 0008, 0010 and 0034. Applicant respectfully disagrees. Claim 18 recites features similar to those recited in claim 1. Therefore, Applicant respectfully submits that claim 18 is non-obvious and patentable over Allison in view of Constant Six and Chari for reasons analogous to those presented with respect to claim 1. Accordingly, Applicant respectfully requests removal of the anticipation rejection with respect to claim 18. Furthermore, if an independent claim is non-obvious under 35 U.S.C. § 103, then any claim depending therefrom is non-obvious. *See* MPEP § 2143.03, for example. Accordingly, removal of the obviousness rejection with respect to claims 19-22 is respectfully requested. Claims 19-22 also are non-obvious and patentable over Allison in view of Constant Six and Chari, taken alone or in combination, at least on the basis of their dependency from claim 18. Applicant, therefore, respectfully requests the removal of the obviousness rejection with respect to these dependent claims.

Conclusion

For at least the above reasons, Applicant submits that claims 1-22 recite novel features not shown by the cited references. Further, Applicant submits that the above-recited novel features provide new and unexpected results not recognized by the cited

references. Accordingly, Applicant submits that the claims are not anticipated nor rendered obvious in view of the cited references.

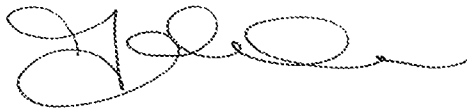
Applicant does not otherwise concede, however, the correctness of the Office Action's rejection with respect to any of the dependent claims discussed above. Accordingly, Applicant hereby reserves the right to make additional arguments as may be necessary to further distinguish the dependent claims from the cited references, taken alone or in combination, based on additional features contained in the dependent claims that were not discussed above. A detailed discussion of these differences is believed to be unnecessary at this time in view of the basic differences in the independent claims pointed out above.

It is believed that claims 1-22 are in allowable form. Accordingly, a timely Notice of Allowance to this effect is earnestly solicited.

The Examiner is respectfully requested to contact the undersigned by telephone if such contact would further the examination of the present patent application.

Respectfully submitted,

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Under 37 CFR 1.34(a)

Dated: July 23, 2007

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